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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,413	01/16/2002	Charles Eric Pearce	PGI6044P0321US	6108
32116	7590	03/01/2004	EXAMINER	
WOOD, PHILLIPS, KATZ, CLARK & MORTIMER 500 W. MADISON STREET SUITE 3800 CHICAGO, IL 60661			TORRES VELAZQUEZ, NORCA LIZ	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/050,413

Applicant(s)

PEARCE ET AL.

Examiner

Norca L. Torres-Velazquez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 5-10 have been considered but are moot in view of the new ground(s) of rejection.

a. Applicants have amended the independent claim 5 to recite that the filter media is treated by heat-fusing or heat-setting and that the filter has a shrinkage of less than 3% at 350 ° F. Applicants argue that the Kirayoglu reference teaches away from a heat-treating step (shrinking operation).

It is the Examiner's interpretation of the presently amended claim 5, that it claims a filter media that has a shrinkage of less than about 3% (that includes from 0-3%), when tested at 350 ° F. With regards to the Kirayoglu reference, it is the Examiner's position that while the reference claims that their fabric is not subjected to a shrinking operation their disclosure does not teach away from using heat-treatment. The Examiner includes HAID et al. as a secondary reference below to provide motivation to include a heat-treatment step in the construction of the material.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over KIRAYOGLU (US 4,556,601) in view of HAID et al. (US 5,240,764).

KIRAYOGLU discloses a heavyweight, nonapertured, nonwoven fabric of hydraulically entangled synthetic organic staple fibers with a unit weight of 200 to 850 g/m<sup>2</sup> (6 to 25 oz/yd<sup>2</sup>). (Abstract, and Column 2, lines 25-28) The reference teaches the use of staple fibers of poly (ethylene terephthalate). (Column 2, lines 47-50) The reference further teaches that such heavyweight fabrics are desired in uses such as heavy-duty gas filtration. (Column 1, lines 55-56) However, KIRAYOGLU fails to heat-treat the filter media.

HAID et al. discloses a process to make a spunlaced nonwoven fabric that includes hydraulically needling the fibers of the web to entangle them in a three-dimensional state and teaches heat setting the fibers to stabilize the web surface and increase the web durability and abrasion resistance. (Column 2, lines 6-32) The reference also teaches using polyester fibers. (Column 3, lines 4-15)

Since both references are directed to hydroentangled nonwoven webs, the purpose disclosed by HAID et al. would have been recognized in the pertinent art of KIRAYOGLU.

With regards to the presently claimed properties of a Mullen burst strength of at least about 395 psi, and machine-direction and cross-direction shrinkage of less than about 3% at 350°F would obviously be present once the KIRAYOGLU product is modified to have more durability and abrasion resistance by heat-treating the web.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the nonwoven fabric of KIRAYOGLU and provide with a

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heat-treatment with the motivation of increasing the web durability and abrasion resistance as disclosed by HAID (Column 2, lines 6-32).

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Norca*

Norca L. Torres-Velazquez  
Examiner  
Art Unit 1771

February 23, 2004

*Elizabeth M. Cole*  
ELIZABETH M. COLE  
PRIMARY EXAMINER